

The listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Withdrawn) An electronic circuit device comprising:
 - a first light source;
 - a second light source;
 - a first substrate;
 - a first optical shutter provided over said first substrate;
 - a second substrate;
 - a second optical shutter provided over said second substrate and under said first substrate;
 - a third substrate;
 - a first optical sensor provided over said third substrate and under said second substrate,
 - a second optical sensor provided over said third substrate and under said second substrate;
 - wherein a first light emitted from said first light source is inputted into said first optical shutter, and transmission and non-transmission of said first light are controlled by said first optical shutter, and
 - wherein in a case where said first optical shutter transmits said first light, the transmitted first light is inputted into said first optical sensor to convert said first light into a first electric signal by a first electronic circuit provided over said third substrate and under said second substrate,
 - wherein a second light emitted from said second light source is transmitted through said first substrate and is inputted into said second optical shutter, and

transmission and non-transmission of said second light are controlled by said second optical shutter, and

wherein in a case where said second optical shutter transmits said second light, the transmitted second light is inputted into said second optical sensor to convert said second light into a second electric signal by a second electronic circuit provided over said third substrate and under said second substrate.

2. (Withdrawn) A device according to claim 1, wherein said electronic circuit comprises a thin film transistor.

3. (Withdrawn) A device according to claim 1, wherein said electronic circuit comprises a thin film transistor and a single crystal IC (Integrated Circuit) chip.

4. (Withdrawn) A device according to claim 1, wherein at least one of said first optical sensor and said second optical sensor is an amorphous silicon photodiode, or an amorphous silicon phototransistor.

5. (Withdrawn) A device according to claim 1, wherein at least one of said first optical sensor and said second optical sensor is a polysilicon (p-Si) photodiode, or a polysilicon phototransistor.

6. (Withdrawn) A device according to claim 1, wherein at least one of said first optical sensor and said second optical sensor is a single crystal silicon photodiode, or a single crystal silicon phototransistor.

7. (Withdrawn) A device according to claim 1, wherein at least one of said first optical shutter and said second optical shutter comprises a liquid crystal which is sandwiched between two sheets of transparent substrates.

8. (Canceled)

9. (Withdrawn) An electronic circuit device comprising:

a first light source;

a second light source;

a first substrate;

a first optical shutter provided over said first substrate;

a second optical shutter provided over said first substrate;

a second substrate;

a first optical sensor provided over said second substrate and under said first substrate;

a third substrate;

a second optical sensor provided over said third substrate and under said second substrate,

wherein a first light emitted from said first light source is inputted into said first optical shutter, and transmission and non-transmission of said first light are controlled by said first optical shutter,

wherein in a case where said first optical shutter transmits said first light, the transmitted first light is inputted into said first optical sensor to convert said first light into a first electric signal by a first electronic circuit provided over said second substrate and under said first substrate,

wherein a second light emitted from said second light source is inputted into said second optical shutter, and transmission and non-transmission of said second light are controlled by said second optical shutter, and

wherein in a case where said second optical shutter transmits said second light, the transmitted second light is inputted into said second optical sensor to convert said

second light into a second electric signal by a second electronic circuit provided over said third substrate and under said second substrate.

10. (Withdrawn) A device according to claim 9, wherein said electronic circuit comprises a thin film transistor.

11. (Withdrawn) A device according to claim 9, wherein said electronic circuit comprises a thin film transistor and a single crystal IC (Integrated Circuit) chip.

12. (Withdrawn) A device according to claim 9, wherein at least one of said first optical sensor and said second optical sensor is an amorphous silicon photodiode, or an amorphous silicon phototransistor.

13. (Withdrawn) A device according to claim 9, wherein at least one of said first optical sensor and said second optical sensor is a polysilicon (p-Si) photodiode, or a polysilicon phototransistor.

14. (Withdrawn) A device according to claim 9, wherein at least one of said first optical sensor and said second optical sensor is a single crystal silicon photodiode, or a single crystal silicon phototransistor.

15. (Withdrawn) A device according to claim 9, wherein at least one of said first optical shutter and said second optical shutter comprises a liquid crystal which is sandwiched between two sheets of transparent substrates.

16. (Canceled)

17. (Withdrawn) An electronic circuit device comprising:

a first light source;

a second light source;

a first substrate;

a first optical shutter provided over said first substrate;

a second substrate;

a first optical sensor provided over said second substrate and under said first substrate;

a second optical shutter provided over said second substrate and under said first substrate;

a third substrate; and

a second optical sensor provided over said third substrate and under said second substrate,

wherein a first light emitted from said first light source is inputted into said first optical shutter, and transmission and non-transmission of said first light are controlled by said first optical shutter,

wherein in a case where said first optical shutter transmits said first light, the transmitted first light is inputted into said first optical sensor to convert said first light into a first electric signal by a first electronic circuit provided over said second substrate and under said first substrate,

wherein a second light emitted from said second light source is transmitted through said first substrate and inputted into said second optical shutter, and transmission and non-transmission of said second light are controlled by said second optical shutter,

wherein in a case where said second optical shutter transmits said second light, the transmitted second light is inputted into said second optical sensor to convert said second light into a second electric signal by a second electronic circuit provided over said third substrate and under said second substrate.

18. (Withdrawn) A device according to claim 17, wherein said electronic circuit comprises a thin film transistor.

19. (Withdrawn) A device according to claim 17, wherein said electronic circuit comprises a thin film transistor and a single crystal IC (Integrated Circuit) chip.

20. (Withdrawn) A device according to claim 17, wherein at least one of said first optical sensor and said second optical sensor is an amorphous silicon photodiode, or an amorphous silicon phototransistor.

21. (Withdrawn) A device according to claim 17, wherein at least one of said first optical sensor and said second optical sensor is a polysilicon (p-Si) photodiode, or a polysilicon phototransistor.

22. (Withdrawn) A device according to claim 17, wherein at least one of said first optical sensor and said second optical sensor is a single crystal silicon photodiode, or a single crystal silicon phototransistor.

23. (Withdrawn) A device according to claim 17, wherein at least one of said first optical shutter and said second optical shutter comprises a liquid crystal which is sandwiched between two sheets of transparent substrates.

24. (Canceled)

25. (Withdrawn) An electronic circuit device comprising:
a first light source;
a second light source;
a first substrate;

a first optical shutter provided over said first substrate;

a second substrate;

a first optical sensor provided over said second substrate and under said first substrate;

a second optical shutter provided over said second substrate and under said first substrate,

a second optical sensor provided over said first substrate;

wherein a first light emitted from said first light source is inputted into said first optical shutter, and transmission and non-transmission of said first light are controlled by said first optical shutter,

wherein in a case where said first optical shutter transmits said first light, the transmitted first light is inputted into said first optical sensor to convert said first light into a first electric signal by a first electronic circuit provided over said second substrate and under said first substrate,

wherein a second light emitted from said second light source is transmitted through said second substrate and is inputted into said second optical shutter, and transmission and non-transmission of said second light are controlled by said second optical shutter, and

wherein in a case where said second optical shutter transmits said second light, the transmitted second light is inputted into said second optical sensor to convert said second light into a second electric signal by a second electronic circuit provided over said first substrate.

26. (Withdrawn) A device according to claim 25, wherein said electronic circuit comprises a thin film transistor.

27. (Withdrawn) A device according to claim 25, wherein said electronic circuit comprises a thin film transistor and a single crystal IC (Integrated Circuit) chip.

28. (Withdrawn) A device according to claim 25, wherein at least one of said first optical sensor and said second optical sensor is an amorphous silicon photodiode, or an amorphous silicon phototransistor.

29. (Withdrawn) A device according to claim 25, wherein at least one of said first optical sensor and said second optical sensor is a polysilicon (p-Si) photodiode, or a polysilicon phototransistor.

30. (Withdrawn) A device according to claim 25, wherein at least one of said first optical sensor and said second optical sensor is a single crystal silicon photodiode, or a single crystal silicon phototransistor.

31. (Withdrawn) A device according to claim 25, wherein at least one of said first optical shutter and said second optical shutter comprises a liquid crystal which is sandwiched between two sheets of transparent substrates.

32. (Canceled)

33. (Currently Amended) An electronic circuit device comprising:
a first external light source;
a second external light source;
a first substrate provided between said first external light source and said second external light source;
a first optical shutter provided over said first substrate;
a second substrate provided adjacent to said first substrate so that said first substrate is provided between said first external light source and said second substrate;

a second optical shutter provided between said first substrate and said second substrate;

a third substrate provided between said second substrate and said second external light source;

a first optical sensor provided between said third substrate and said second substrate;

a second optical sensor provided over said first substrate;

a first electronic circuit provided between said third substrate and said second substrate; and

a second electronic circuit provided over said first substrate,

wherein a first light emitted from said first external light source is inputted into said first optical shutter, and transmission and non-transmission of said first light are controlled by said first optical shutter,

wherein in a case where said first optical shutter transmits said first light, the transmitted first light is inputted into said first optical sensor ~~to convert said first light and~~ is converted into a first electric signal by said first optical sensor to input said first electric signal into said first electronic circuit,

wherein a second light emitted from said second external light source is inputted into said second optical shutter, and transmission and non-transmission of said second light are controlled by said second optical shutter, and

wherein in a case where said second optical shutter transmits said second light, the transmitted second light is inputted into said second optical sensor ~~to convert said second light and~~ is converted into a second electric signal by said second optical sensor to input said second electric signal into said second electronic circuit.

34. (Previously Presented) A device according to claim 33, wherein at least one of said first electronic circuit and said second electronic circuit comprises a thin film transistor.

35. (Previously Presented) A device according to claim 33, wherein at least one of said first electronic circuit and said second electronic circuit comprises a thin film transistor and a single crystal IC (Integrated Circuit) chip.

36. (Previously Presented) A device according to claim 33, wherein at least one of said first optical sensor and said second optical sensor is an amorphous silicon photodiode, or an amorphous silicon phototransistor.

37. (Withdrawn) A device according to claim 33, wherein at least one of said first optical sensor and said second optical sensor is a polysilicon (p-Si) photodiode, or a polysilicon phototransistor.

38. (Withdrawn) A device according to claim 33, wherein at least one of said first optical sensor and said second optical sensor is a single crystal silicon photodiode, or a single crystal silicon phototransistor.

39. (Previously Presented) A device according to claim 33, wherein at least one of said first optical shutter and said second optical shutter comprises a liquid crystal which is sandwiched between two sheets of transparent substrates.

40.-42. (Canceled)

43. (Currently Amended) An electronic circuit device comprising:

a first external light source;

a second external light source;

a first substrate provided between said first external light source and said second external light source;

a first optical shutter provided over said first substrate;

a second substrate provided adjacent to said first substrate so that said first substrate is provided between said first external light source and said second substrate;

a second optical shutter provided between said first substrate and said second substrate;

a third substrate provided between said second substrate and said second external light source;

a first optical sensor provided between said third substrate and said second substrate;

a second optical sensor provided over said first substrate;

a first electronic circuit provided between said third substrate and said second substrate; and

a second electronic circuit provided over said first substrate,

wherein a first light emitted from said first external light source is inputted into said first optical shutter, and transmission and non-transmission of said first light are controlled by said first optical shutter,

wherein in a case where said first optical shutter transmits said first light, the transmitted first light is inputted into said first optical sensor ~~to convert said first light and is converted~~ into a first electric signal by said first optical sensor to input said first electric signal into said first electronic circuit,

wherein a second light emitted from said second external light source is inputted into said second optical shutter, and transmission and non-transmission of said second light are controlled by said second optical shutter,

wherein in a case where said second optical shutter transmits said second light, the transmitted second light is inputted into said second optical sensor ~~to convert said second light and is converted~~ into a second electric signal by said second optical sensor to input said second electric signal into said second electronic circuit, and

wherein said first substrate and said second substrate and said third substrate are laminated on each other.

44. (Previously Presented) A device according to claim 43, wherein at least one of said first electronic circuit and said second electronic circuit comprises a thin film transistor.

45. (Previously Presented) A device according to claim 43, wherein at least one of said first electronic circuit and said second electronic circuit comprises a thin film transistor and a single crystal IC (Integrated Circuit) chip.

46. (Previously Presented) A device according to claim 43, wherein at least one of said first optical sensor and said second optical sensor is an amorphous silicon photodiode, or an amorphous silicon phototransistor.

47. (Previously Presented) A device according to claim 43, wherein at least one of said first optical shutter and said second optical shutter comprises a liquid crystal which is sandwiched between two sheets of transparent substrates.

48. (Currently Amended) An electronic circuit device comprising:
a first external light source;
a second external light source;
a first substrate provided between said first external light source and said second external light source;
a first optical shutter provided over said first substrate;
a second substrate provided adjacent to said first substrate so that said first substrate is provided between said first external light source and said second substrate;

a second optical shutter provided between said first substrate and said second substrate;

a third substrate provided between said second substrate and said second external light source;

a first optical sensor provided between said third substrate and said second substrate;

a second optical sensor provided over said first substrate;

a first electronic circuit provided between said third substrate and said second substrate; and

a second electronic circuit provided over said first substrate,

wherein a first light emitted from said first external light source is inputted into said first optical shutter, and transmission and non-transmission of said first light are controlled by said first optical shutter,

wherein in a case where said first optical shutter transmits said first light, the transmitted first light is inputted into said first optical sensor ~~to convert said first light and~~ is converted into a first electric signal by said first optical sensor to input said first electric signal into said first electronic circuit,

wherein a second light emitted from said second external light source is inputted into said second optical shutter, and transmission and non-transmission of said second light are controlled by said second optical shutter,

wherein in a case where said second optical shutter transmits said second light, the transmitted second light is inputted into said second optical sensor ~~to convert said second light and~~ is converted into a second electric signal by said second optical sensor to input said second electric signal into said second electronic circuit,

wherein at least one of said first optical sensor and said second optical sensor comprises a thin film transistor for reset, and a cathode electrode, and an anode electrode, and an amorphous film provided between said cathode electrode and said anode electrode,

wherein said thin film transistor for reset comprises a semiconductor film, and a gate electrode provided adjacent to said semiconductor film with a gate insulating film therebetween, and

wherein said cathode electrode is connected with said semiconductor film.

49. (Previously Presented) A device according to claim 48, wherein at least one of said first electronic circuit and said second electronic circuit comprises a thin film transistor.

50. (Previously Presented) A device according to claim 48, wherein at least one of said first electronic circuit and said second electronic circuit comprises a thin film transistor and a single crystal IC (Integrated Circuit) chip.

51. (Previously Presented) A device according to claim 48, wherein at least one of said first optical shutter and said second optical shutter comprises a liquid crystal which is sandwiched between two sheets of transparent substrates.

52. (Withdrawn) An electronic circuit device comprising:

a first light source;

a second light source;

a third light source;

a first substrate provided between said first light source and said third light source and between said second light source and said third light source wherein said first substrate is provided with a first optical shutter and a first optical sensor;

a second substrate provided between said first light source and said third light source and between said second light source and said third light source wherein said second substrate is provided with a second optical shutter and a third optical shutter;
and

a third substrate provided between said first light source and said third light source and between said second light source and said third light source wherein said second substrate is provided between said first substrate and said third substrate and wherein said third substrate is provided with a second optical sensor and a third optical sensor,

wherein a first light emitted from said first light source is inputted into said first optical shutter such that transmission and non-transmission of said first light to said second optical sensor are determined by said first optical shutter,

wherein a second light emitted from said second light source is inputted into said second optical shutter such that transmission and non-transmission of said second light to said third optical sensor are determined by said second optical shutter, and

wherein a third light emitted from said third light source is inputted into said third optical shutter such that transmission and non-transmission of said third light to said first optical sensor are determined by said third optical shutter.

53. (Withdrawn) A device according to claim 52, wherein at least one of said first optical sensor and said second optical sensor and said third optical sensor is an amorphous silicon photodiode, or an amorphous silicon phototransistor.

54. (Withdrawn) A device according to claim 52, wherein at least one of said first optical shutter and said second optical shutter and said third optical shutter comprises a liquid crystal which is sandwiched between two sheets of transparent substrates.